

Alternative Procedures for Estimating Random Coefficient Logit Demand Models

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20 data sets for $E[\beta_i^0] = 0$ with $T = [25, 10, 5]$, $J = [50, 125, 250]$, $\text{Var}[\beta_i] = [.5 \ .5 \ .5 \ .5 \ .2]$, $\text{sigmaxi} = 1$, $\text{nn}=1331$, $\text{seed}=5500$

Five starting points in the estimation for each data set.

Conv: the number of converged cases over all trials (100)

CPU, Iter, FEVs: average major iterations, function evaluations over all trials (100)

GlobOpt: counts how many times a method find the global optimum (convergent cases)

FailsNr: counts the problems where a method do not find the best function value (convergent cases)

CPU-GOpt: an estimate of the computing time in seconds needed for obtaining the global minima

Mark.	Prod.	s_0	Method	Conv	CPU	GlobOpt	FailsNr	CPU-GOpt
25	50	0.49	NumDerivSpectr	98	85(44)	83	1	331
			NumDerivSquar	96	152(298)	74	1	779
			BOBYQASpectr	97	83(43)	75	1	414
			BOBYQASquar	100	99(100)	76	1	479
			NelderMeadSpectr	81	213(98)	57	1	1743
			NelderMeadContr	28	863(234)	23	11	22809
10	125	0.25	NumDerivSpectr	99	256(126)	81	0	1065
			NumDerivSquar	100	474(633)	78	0	2162
			BOBYQASpectr	98	278(145)	77	0	1307
			BOBYQASquar	100	352(421)	79	0	1558
			NelderMeadSpectr	70	637(232)	51	1	6168
			NelderMeadContr	0	1010(9)	0	20	-Inf
5	250	0.12	NumDerivSpectr	100	399(183)	78	0	1820
			NumDerivSquar	98	647(485)	83	0	2522
			BOBYQASpectr	98	429(216)	72	2	2328
			BOBYQASquar	99	545(329)	72	2	2957
			NelderMeadSpectr	53	822(212)	28	8	17285
			NelderMeadContr	0	1018(16)	0	20	-Inf

Table 1: Results for different market structures; $\beta_1 = 0$; derivative-free outer loop.